

Lotus DataLens

for 1-2-3 Data Access



THE CHALLENGE:

closing the data access gap

Data. It's fundamental to almost every business decision. Strategic plans. Sales projections. Budgets. Benefits. Wages. And, it's impossible to access.

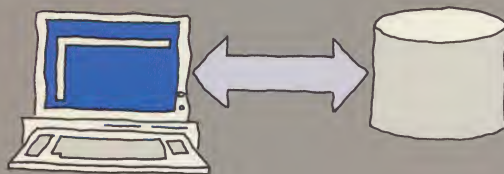
With data stored in a multitude of locations, users spend more time gathering data than using it. They cut and paste, translate, re-key, wait for reports. Often they learn different, usually complex, approaches for each different source of data. The process is frustrating, time-consuming, and expensive.

That is, until now. DataLens®, an innovative technology that's included with 1-2-3®, can close the data access gap. So users can easily get the data they need. When they need it. Wherever it is stored.

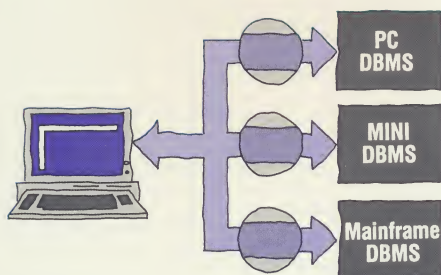
THE SOLUTION:

*give users easy and direct
access to data*

With DataLens, users get their own data. It's *simple* . . . data is accessed directly from 1-2-3. It's *easy* . . . users never leave their current worksheet. It's *familiar* . . . users work with 1-2-3 commands they already know. It's *convenient* . . . there's no need to learn new, complicated processes, re-key data, or wait for reports. And, it's *unique* . . . no other data access method is completely integrated with 1-2-3 and uses the same straightforward, effortless approach.



DataLens lets users access data in external data sources with familiar 1-2-3 commands. Users can extract data on their own. When they want it. From almost any data source.



DataLens provides access to data no matter where it is stored. Users can extract data from a PC database. Or, they can get to corporate or departmental data stored on a mainframe or minicomputer.

DATALENS: TECHNOLOGY THAT LINKS 1-2-3 TO DATA SOURCES DataLens defines how 1-2-3 talks to a data source. A driver, created for each data source, does the communicating. It sends requests from 1-2-3 to the data source and returns data to the worksheet. The data can be almost anywhere — on a corporate mainframe, a LAN server, or a CD-ROM — and in any format.

Sound like what you've been waiting for? All you have to do is buy 1-2-3 and get the driver from your database vendor.

USERS GET CONVENIENT ACCESS TO DIVERSE DATA SOURCES DataLens lets 1-2-3 users get the data they need without using complicated procedures. Since DataLens is integrated with most versions of 1-2-3, users don't have to learn a separate interface for data access. In fact, they don't even need to know that DataLens exists. They simply work with familiar 1-2-3 commands.

This means increased productivity and more flexibility. Users can generate their own queries, create their own reports, and access data when they need it — without waiting for monthly reports or custom programs.

WORKGROUPS SHARE DATA MORE EASILY DataLens also enhances the ability of workgroups to share data. Workgroups can choose a single, standard data access method for everyone. No matter what hardware they are using, 1-2-3 provides a common data access tool on all these platforms: PC, Sun, DEC®, or IBM®.

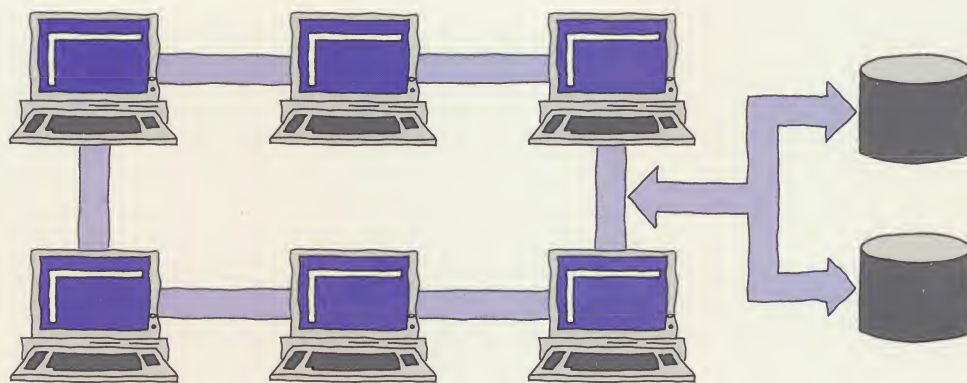
Workers use the same data and managers base decisions on uniform input. What's more, data access criteria can be customized for the workgroup and shared between members. Just as 1-2-3 macros, templates, and models are customized and shared. The result is a more efficient flow of information.

MIS/INFORMATION CENTERS REDUCE RESOURCE STRAIN AND PRESERVE SECURITY

With DataLens, MIS/Information Center personnel can save resources while preserving data security.

Users extract their own data and create their own reports using 1-2-3 commands they already know. So demand for training and support is reduced. And, valuable development resources can be used to build new applications and innovative programs. The ability to provide more efficient data access, better service, and new applications will strengthen ties between MIS/IC departments and end users.

DataLens drivers take advantage of the security mechanisms already provided by the DBMS, such as user IDs, passwords, and access privileges. This assures that existing data security and integrity are maintained.



DataLens encourages workgroups to share data, macros, and templates while maintaining data security.

WORKING WITH 1-2-3 AND DATALENS DataLens lets 1-2-3 users get at data essential for reports, analyses, and business decisions. The process is simple. And takes only moments.

The user establishes a connection to the data source with the /Data External Use command. 1-2-3 lists available drivers, asks for the name of the database table, and suggests a range name for the external source.

Once connected, 1-2-3 spreadsheet and database commands and @functions are used to manipulate the data.

Familiar /Data Query commands are used to extract selected data. The user can perform any number of extracts or updates, without re-connecting or creating new ranges.

Notably, the entire process can be streamlined and automated. Using templates eliminates the need to set up input, output, and criteria ranges. And macros can be created to establish the connection to the data source with a single command.

1-2-3 NOW PROVIDES MORE DATABASE POWER AND VERSATILITY In addition to DataLens, Lotus® has enhanced 1-2-3 to provide users with more power and versatility when working with external data sources. Some features include the ability to: ▶ Access data from multiple sources ▶ Perform relational joins ▶ Create and delete external database tables ▶ Modify and insert records in external database tables ▶ Extract all or some data ▶ Automatically update data at user-set time intervals ▶ Create aggregate columns ▶ List tables in an external database ▶ List fields in an external table ▶ Process requests at the external source.

Lotus 1-2-3



Lotus 1-2-3 Release 3 • Operating System: DOS, OS/2 • Hardware: 286/386 based PC's • Disk Size: 3 1/2" HD



DATALENS APPLICATIONS The following releases of 1-2-3 are compatible with DataLens:

► 1-2-3 for DOS 3.1+ ► 1-2-3 for OS/2® ► 1-2-3/M™ for IBM System/370™ mainframes running MVS™ or VM™ ► 1-2-3 for VAX®/VMS® and 1-2-3 for ALL-IN-1®, which can be used on all DEC VAX/VMS computers, from a single-user VAXstation® to a VAX 9000 mainframe ► 1-2-3 for Sun, which runs on Sun-3™, Sun-4™, and Sun386i™ workstations ► 1-2-3 for UNIX System V, which runs on 80386 personal computers ► 1-2-3 for Windows™ ► 1-2-3 for Macintosh®.

LOTUS CROSS-PLATFORM STRATEGY Lotus Development Corporation is committed to helping users take advantage of the diverse hardware and software resources available in their organizations. We are committed not only to making resources accessible but also to providing consistent, powerful, and functional tools and technologies. DataLens is a key element of this strategy. It links diverse data sources to sophisticated desktop analytical tools while providing customers with consistency, ease-of-use, and versatility.

User Benefits

- ▶ easy, direct, timely data access
- ▶ familiar, consistent user interface
- ▶ access to diverse data sources
- ▶ more complete data analysis
- ▶ better informed decisions
- ▶ enhanced data sharing

MIS/IC Benefits

- ▶ save time, resources, and money
- ▶ focus resources on new development and innovative programs
- ▶ protect software investments
- ▶ maintain data security
- ▶ provide flexible access to corporate databases

FOR MORE INFORMATION DataLens is integrated with most versions of 1-2-3. Specific drivers are provided by the DBMS vendor or Lotus. Refer to the DataLens Driver Directory for a list of available drivers.

TECHNICAL DESCRIPTION DataLens is a specification that describes how 1-2-3 communicates with a data source. A DataLens driver is created for each data source, generally by the DBMS vendor. 1-2-3 and the DataLens driver communicate using function calls and data structures defined in the DataLens specification. The DataLens driver and the DBMS communicate using the DBMS's standard interface.

The process works this way: The DataLens driver receives requests for information from 1-2-3 and translates them into DBMS commands which are submitted to the DBMS. The driver then receives the results from the DBMS, translates them into a standard format, and returns them to 1-2-3.

TECHNICAL FEATURES DataLens provides 1-2-3 users and MIS/IC personnel with unrivaled flexibility.

Application and Database Flexibility. With DataLens, users can take full advantage of the features of each specific DBMS, rather than settling for a small but standard set of features.

International Needs Supported through Full Character Set. DataLens provides flexibility when working with corporate databases used world-wide on diverse platforms, as well as with international products. This is because 1-2-3 and DataLens use the Lotus Multibyte Character Set (LMBCS), which can represent every character in any character set.

Choice of Data Types. Since DataLens drivers can be written to use data types most suitable to each DBMS, DataLens users can extract data from sources with standard and non-standard data types.

Comprehensive Toolkit. The *DataLens Developer Toolkit* makes it easy for DBMS vendors and corporate programmers with proprietary data sources to develop and support drivers. The Toolkit, which is provided by Lotus, contains the DataLens specification plus tools and documentation to write a DataLens driver. See the *DataLens Toolkit Overview* for a description of the Toolkit and the procedure to create a driver.

Lotus®

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Lotus DataLens Driver Directory

DataLens drivers connect Lotus 1-2-3 users to worlds of data without leaving the familiar spreadsheet. For an updated list of available drivers, please call: 1-800-345-1043. Requests for drivers not listed here should be directed to the appropriate database vendor and mentioned to your local Lotus Representative.

Data Source	1-2-3 for DOS 3.1+	1-2-3 for Win- dows	1-2-3 for OS/2	1-2-3 for Sun	1-2-3 for VAX	1-2-3 for Main- frame	Available From	To Order
AS/400, S/36, S/38	V	V	V				Datasix (France)	33-67-84-48-00
Commander FDC 1.3	V						Comshare	313-994-4800
DB Accelerator	V						Extended Systems	208-322-7575
DB2						B	IBM	
	V	V	V				Datasix (France)	33-67-84-48-00
dBASE III & III+	B		B				Lotus	800-345-1043
dBASE IV		B					Lotus	800-345-1043
EDA: ADABAS, Datacom-DB, DB2, Focus, IDMS/IDMSR, IMS, ISAM, Model 204, QSAM, Sharebase, System 2000, Teradata, TOTAL, VSAM	V						Information Builders	800-969-INFO
IXF						B	IBM	
Informix-OnLine & Informix-SE				L			Lotus	800-345-1043
Netware SQL & Btrieve	V		V				Novell	512-346-8380
ORACLE RDBMS (OS/2, UNIX, VMS, M/F)	V		V	V	V		Oracle	800-345-DBMS
OS/2 Database Manager			L				Lotus	800-345-1043
Paradox	B	B	L				Lotus	800-345-1043
Rdb	V						Soma & DEC	416-365-7117
					B		Digital	
RMS	V						Soma & DEC	416-365-7117
SQL Server (OS/2, UNIX, VMS)	L	B	L	B			Lotus	800-345-1043
SQL/DS						B	IBM	
	V	V	V				Datasix (France)	33-67-84-48-00
Unisys	V						University Computing	302-368-0508

B= Bundled with 1-2-3, V=Available from vendor, L=Available from Lotus